



THE STATE OF ARIZONA  
**GAME AND FISH DEPARTMENT**

5000 W. CAREFREE HIGHWAY  
PHOENIX, AZ 85086-5000  
(602) 942-3000 • WWW.AZGFD.GOV

REGION V, 555 N. GREASEWOOD ROAD, TUCSON, AZ 85745

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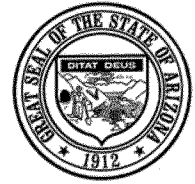
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January 8, 2018

U.S. Environmental Protection Agency, Region 9  
Drinking Water Protection Section, Mail Code WTR-3-2  
75 Hawthorne Street  
San Francisco, CA 94105  
Attention: Nancy Rumrill

Electronically sent 1/8/2018 to:  
[rumrill.nancy@epa.gov](mailto:rumrill.nancy@epa.gov)

Re: Notice of Intent to Issue Class II Underground Injection Control Area Permit and Proposed Approval of an Aquifer Exemption for Excelsior Mining Arizona, Inc.'s Gunnison Copper Project

Dear Ms. Rumrill:

The Arizona Game and Fish Department (Department) understands that the United States Environmental Protection Agency, Region 9 (EPA) is soliciting public comments on its proposal to issue a Class III Underground Injection Control (UIC) Area Permit for Excelsior Mining Arizona, Inc. (Excelsior) to construct and operate an in-situ copper recovery (ISCR) facility known as the Gunnison Copper Project (Project) near the Town of Willcox, Arizona.

The Class III UIC Area Permit, if issued, would authorize Excelsior to inject a dilute sulfuric acid solution into the copper orebody and recover copper-laden solution for the purpose of producing copper. EPA proposes to issue the permit and the authorization to construct, test, and inject at the proposed Project site for twenty (20) years, followed by aquifer restoration and closure operations for three (3) years and a post-rinsing monitoring period of five (5) years. The injection interval would be the copper oxide orebody present within the Oxide Bedrock Zone at the Project site. It is a bedrock formation that was formed as coatings on rock fractures and as vein fill that is approximately 400 to 1,400 feet below ground surface. The wellfield area is approximately 192 acres in areal extent.

The Department has public trust responsibility for wildlife, a public resource, irrespective of land ownership. We have attached a report from our Environmental Review Tool generated for the general project area. There are a significant number of wildlife species which may occur in the area, including such federally listed species as the lesser long-nosed bat and Chiricahua leopard frog. Impacts to wildlife and habitat within the 192 acre footprint of the project should be evaluated as well as potential impacts to surface water within and nearby the project area. As this

Ms. Nancy Rumrill

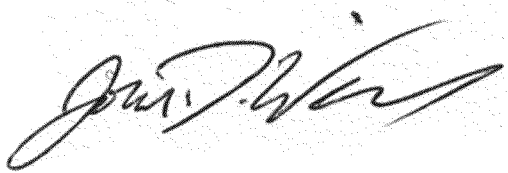
January 8, 2018

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project may have significant impacts on wildlife, and could not occur but for issuance of the UIC Area Permit, it appears the project may require review under the National Environmental Policy Act (NEPA). Should the EPA determine that a NEPA process is prudent, the Department requests cooperation and/or coordination under the NEPA.

The Department thanks the EPA for providing us this opportunity to comment on this project. Please feel free to contact me with any comments on this letter at [jwindes@azgfd.gov](mailto:jwindes@azgfd.gov) or 520-628-5376.

Sincerely,

A handwritten signature in black ink, appearing to read "John Windes", is written over a light gray, textured background.

John Windes

Habitat Evaluation and Lands Program Manager Region V

Enclosure: Environmental Review Tool Report

AGFD Log# M17-10254824

# Arizona Environmental Online Review Tool Report



## ***Arizona Game and Fish Department Mission***

***To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.***

### **Project Name:**

Gunnison Excelsior Copper Mining

### **User Project Number:**

M17-10254824

### **Project Description:**

In situ copper extraction using extraction wells

### **Project Type:**

Mining, Extraction Other minerals (copper, limestone, cinders, shale, salt), Other minerals (copper, limestone, cinders, shale, salt)

### **Contact Person:**

Region5 Habitat Program

### **Organization:**

Arizona Game and Fish Department

### **On Behalf Of:**

EPA

### **Project ID:**

HGIS-06602

***Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.***

**Disclaimer:**

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously

4. HabiMap Arizona Wildlife Action potential species modification and new data will n

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and the availability of

**Locations Accuracy**  
Project locations are a  
creator/owner of the P  
of the Project Review I

mental review. The  
d thus the correctness



### Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction will be conducted, and a detailed site map. Once reviews are complete, send the following information (including completion of project):

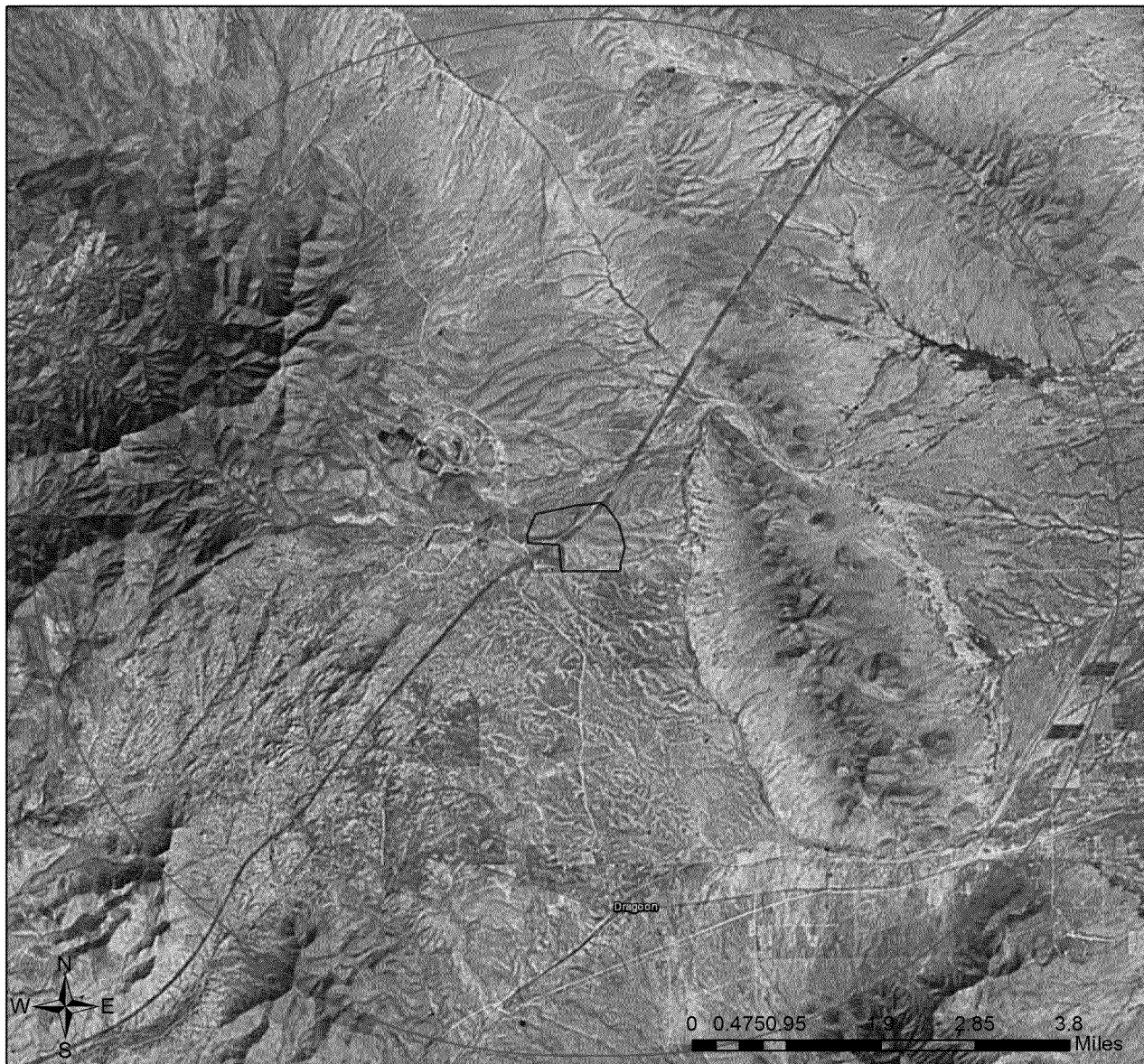
**Project Evaluation:**  
**Arizona Game and Fish**  
**5000 West Camelback Road**  
**Phoenix, Arizona 85016**  
**Phone Number: (602) 961-6000**  
**Fax Number: (602) 961-6001**  
**Or**

[PEP@azgfd.gov](mailto:PEP@azgfd.gov)

6. Coordination with the Department for Endangered Species Act (ESA) and National Environmental Policy Act (NEPA) and/or during further



## Gunnison Excelsior Copper Mining Aerial Image Basemap With Locator Map



- ☐ Project Boundary
- ☐ Buffered Project Boundary

Project Size (acres): 323.45

Lat/Long (DD): 32.0845 / -110.0425

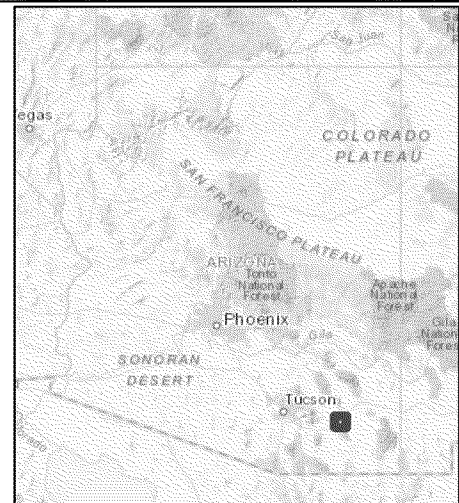
County(s): Cochise

AGFD Region(s): Tucson

Township/Range(s): T15S, R22E; T15S, R23E; T16S, R23E

USGS Quad(s): DRAGON

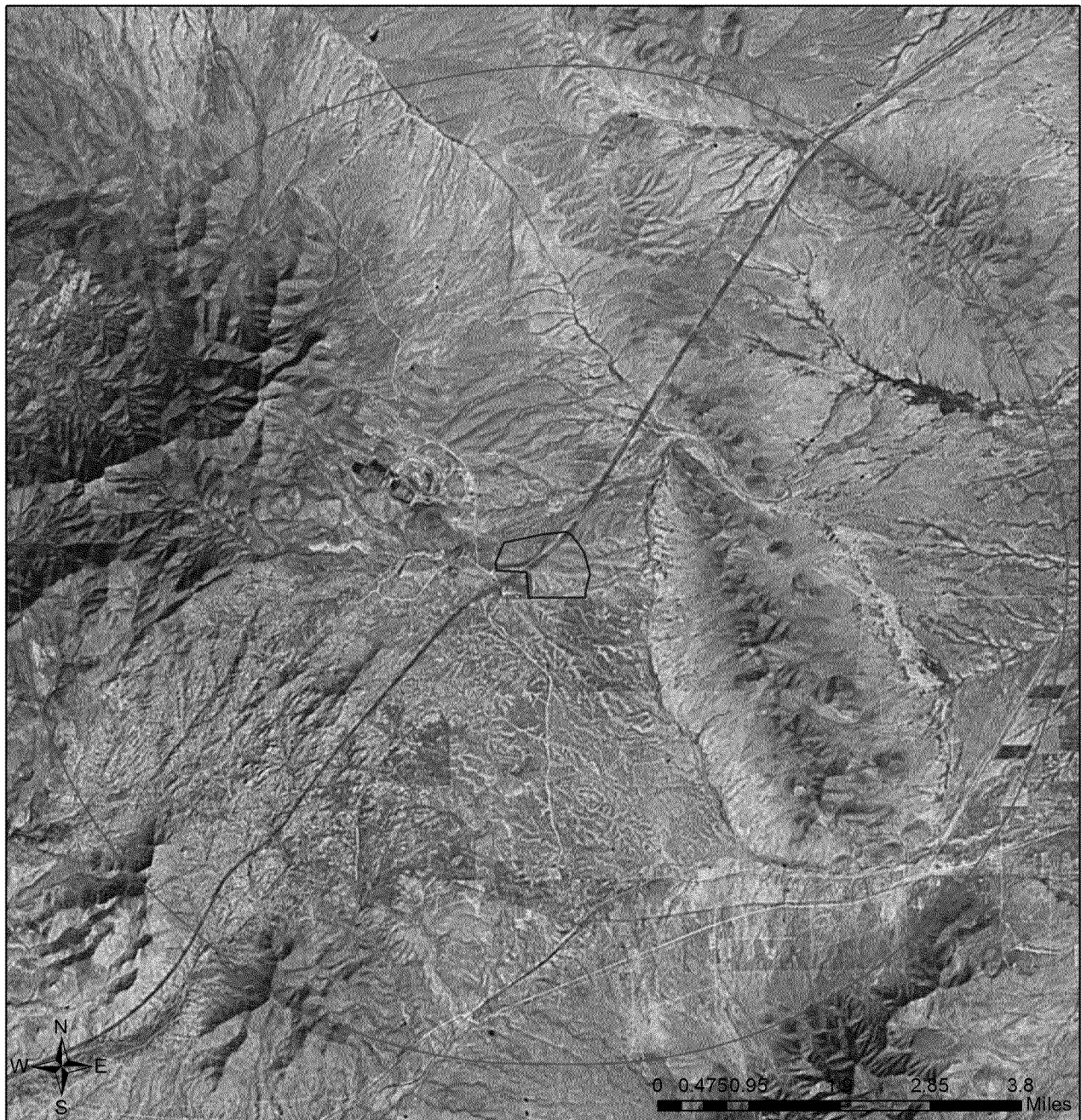
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo,





## Gunnison Excelsior Copper Mining

### Web Map As Submitted By User



- ☐ Project Boundary
- ☐ Buffered Project Boundary

Project Size (acres): 323.45

Lat/Long (DD): 32.0845 / -110.0425

County(s): Cochise

AGFD Region(s): Tucson

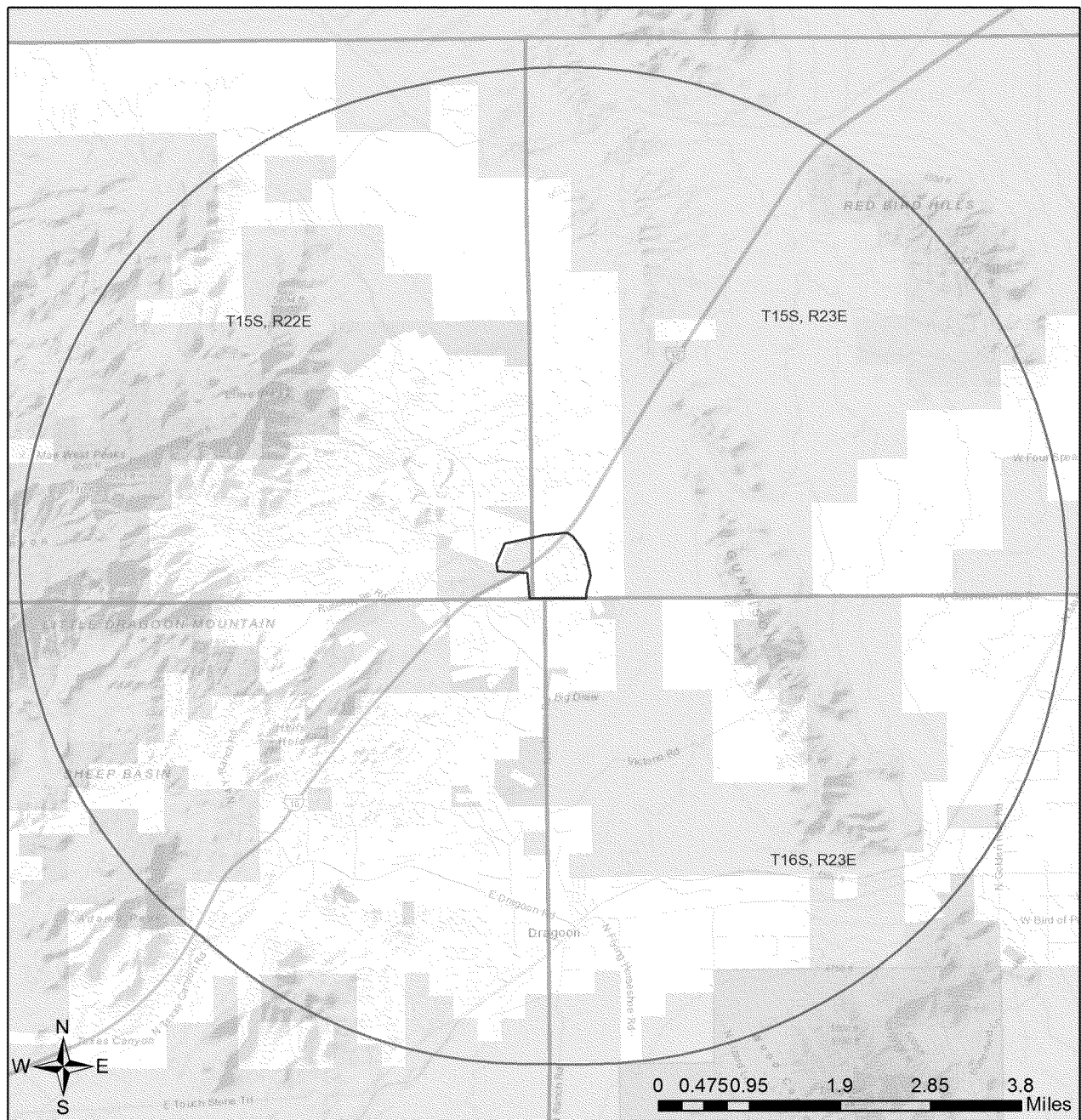
Township/Range(s): T15S, R22E; T15S, R23E; T16S, R23E

USGS Quad(s): DRAGOON

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## Gunnison Excelsior Copper Mining

### Topo Basemap With Township/Ranges and Land Ownership



	Project Boundary		Military	Project Size (acres): 323.45
	Buffered Project Boundary		Mixed/Other	Lat/Long (DD): 32.0845 / -110.0425
	Township/Ranges		National Park/Mon.	County(s): Cochise
<b>Land Ownership</b>			Private	AGFD Region(s): Tucson
	AZ Game and Fish Dept.		State and Regional Parks	Township/Range(s): T15S, R22E; T15S, R23E; T16S, R23E
	BLM		State Trust	USGS Quad(s): DRAGOON
	BOR		US Forest Service	Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
	Indian Res.		Wildlife Area/Refuge	



**Special Status Species and Special Areas Documented within 5 Miles of Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Aquila chrysaetos</i>	Golden Eagle	BGA		S		1B
<i>Choeronycteris mexicana</i>	Mexican Long-tongued Bat	SC	S	S		1C
<i>Coryphantha scheeri</i> var. <i>valida</i>	Slender Needle Corycactus				SR	
<i>Echinomastus erectocentrus</i> var. <i>erectocentrus</i>	Needle-spined Pineapple Cactus	SC			SR	
<i>Hypsiglena</i> sp. nov.	Hooded Nightsnake					1B
<i>Leptonycteris curasoae</i> <i>verbabuenae</i>	Lesser Long-nosed Bat	LE				1A
<i>Lithobates blairi</i>	Plains Leopard Frog			S		1A
<i>Lithobates chiricahuensis</i>	Chiricahua Leopard Frog	LT				1A
<i>Mammillaria viridiflora</i>	Varied Fishhook Cactus				SR	
<i>Mammillaria wrightii</i> var. <i>v</i>					SR	
<i>Phrynosoma cornutum</i>						
<i>Terrapene ornata luteola</i>				S		1A

Note: Status code definiti

[uidelines/statusdefinitions/](#)



Predic		Models				
Scientific Name				BLM	NPL	SGCN
Accipiter gentilis atricapill						1B
Agosia chrysogaster				S		1B
Aix sponsa						1B
Amazilia violiceps						1B
Ammodramus savannaru ammolegus				S		1B
Ammodramus savannaru perpallidus						1B
Ammospermophilus harri						1B
Anthus spragueii	Sprague's Pipit	SC				1A
Antilocapra americana americana	American Pronghorn					1B
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Catostomus clarkii	Desert Sucker	SC	S	S		1B
Chordeiles minor	Common Nighthawk					1B
Coccothraustes vespertinus	Evening Grosbeak					1B
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B

**Species of Greatest Conservation Need  
Predicted within 5 Miles of Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Crotalus lepidus klauberi</i>	Banded Rock Rattlesnake					1A
<i>Crotalus tigris</i>	Tiger Rattlesnake					1B
<i>Cynanthus latirostris</i>	Broad-billed Hummingbird		S			1B
<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	CCA		S		1A
<i>Dipodomys spectabilis</i>	Banner-tailed Kangaroo Rat			S		1B
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	LE				1A
<i>Euderma maculatum</i>	Spotted Bat	SC	S	S		1B
<i>Eugenes fulgens</i>	Magnificent Hummingbird					1B
<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat	SC		S		1B
<i>Falco peregrinus anatum</i>				S		1A
<i>Glaucidium gnoma gnom</i>						1B
<i>Haliaeetus leucocephalus</i>				S		1A
<i>Heloderma suspectum</i>						1A
<i>Hypsiglena sp. nov.</i>						1B
<i>Ictinia mississippiensis</i>						1B
<i>Idionycteris phyllotis</i>				S		1B
<i>Incilius alvarius</i>						1B
<i>Junco phaeonotus</i>						1B
<i>Kinosternon sonoriense s</i>				S		1B
<i>Lampornis clemenciae</i>						1B
<i>Lasiurus blossevillii</i>						1B
<i>Lasiurus xanthinus</i>						1B
<i>Leopardus pardalis</i>						1A
<i>Leptonycteris curasoae yerbabuenae</i>						1A
<i>Lepus alleni</i>						1B
<i>Lithobates blairi</i>				S		1A
<i>Lithobates chiricahuensis</i>	Chiricahua Leopard Frog	LT				1A
<i>Megascops trichopsis</i>	Whiskered Screech-owl		S			1B
<i>Melanerpes uropygialis</i>	Gila Woodpecker					1B
<i>Meleagris gallopavo mexicana</i>	Gould's Turkey		S			1B
<i>Melospiza lincolni</i>	Lincoln's Sparrow					1B
<i>Melospiza aberti</i>	Abert's Towhee		S			1B
<i>Micruroides euryxanthus</i>	Sonoran Coralsnake					1B
<i>Myiarchus tuberculifer</i>	Dusky-capped Flycatcher					1B
<i>Myiodynastes luteiventris</i>	Sulphur-bellied Flycatcher		S			1B
<i>Myotis occultus</i>	Arizona Myotis	SC		S		1B
<i>Myotis velifer</i>	Cave Myotis	SC		S		1B



**Species of Greatest Conservation Need  
Predicted within 5 Miles of Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Myotis yumanensis	Yuma Myotis	SC				1B
Notiosorex cockrumi	Cockrum's Desert Shrew					1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Odocoileus virginianus	White-tailed Deer					1B
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Peromyscus nasutus	Northern Rock Deermouse					1B
Peucaea botterii arizonae	Arizona Botteri's Sparrow			S		1B
Peucaea carpalis	Rufous-winged Sparrow					1B
Phrynosoma solare						1B
Picoides arizonae						1B
Progne subis hesperia				S		1B
Sceloporus slevini				S		1B
Setophaga petechia						1B
Sonorella christensenii						1B
Sonorella grahamensis						1B
Sorex arizonae						1B
Strix occidentalis lucida						1A
Tadarida brasiliensis						1B
Terrapene ornata						1A
Thomomys umbrinus inte						1B
Troglodytes pacificus						1B
Vireo bellii arizonae						1B
Vulpes macrotis						1B



**Species of Ec**

**Project Vicinity**

Scientific Name	Common Name	BLM	NPL	SGCN
Antilocapra americana americana	America Pronghorn			1B
Callipepla gambelii	Gambel's Quail			
Callipepla squamata	Scaled Quail			1C
Cyrtonyx montezumae	Montezuma Quail			1C
Odocoileus hemionus	Mule Deer			
Odocoileus virginianus	White-tailed Deer			1B
Patagioenas fasciata	Band-tailed Pigeon			1C
Pecari tajacu	Javelina			
Puma concolor	Mountain Lion			
Ursus americanus	American Black Bear			
Zenaidura macroura	White-winged Dove			



### Species of Economic and Recreation Importance Predicted within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Zenaida macroura	Mourning Dove					

**Project Type: Mining, Extraction Other minerals (copper, limestone, cinders, shale, salt), Other minerals (copper, limestone, cinders, shale, salt)**

#### Project Type Recommendations:

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning button at <https://www.azgfd.com/wildlife/planning/wildlifefriendlyguidelines/>

During the planning stage connectivity, and access to mates, reduces gene flow ultimately prevents wildlife numbers, and resistance for wildlife and should be contained within impacts can be facilitated through variety of wildlife. Guidelines at: <https://www.azgfd.com>

Consider impacts of outdoor human safety while minimizing area, and evaluate proposed disrupt behavior patterns should be used as often as needed, or cut to ensure the

Minimize potential introduction of snails), and other organisms upon native species and control noxious weed or invasive utilized in the project activities before leaving the site. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants, <https://agriculture.az.gov/>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control, <http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information <https://www.azgfd.com/hunting/regulations>.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.



life in regards to movement, assessing resources, finding may have occurred, and dispersal, control of prey natural movement corridors diversity of species, and should promote passage for a

It should be taken to increase native species within project area if artificial lighting may affect. Narrow spectrum bulbs should be shielded,

plants, animals (exotic species) or compete with or prey on native species. The terms of the permit require to wash all equipment before use (Arizona Revised Statutes,

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with the Office of Surface Mining may be required (<http://www.osmre.gov/index.shtml>).

Based on the project type entered, coordination with the Environmental Protection Agency may be required (<http://www.epa.gov/>).

Based on the project type entered, coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>).

Pre- and post-survey/monitoring should be conducted to determine alternative access/exits to mines and to identify and/or minimize potential impacts to bat species. For further information when developing alternatives to mine closures, contact the Arizona Game and Fish Department Nongame Bat Coordinator at the Main Office in Terrestrial Branch, <https://www.azgfr>

Based on the project type (<http://www.azdeq.gov/>).

Based on the project type (<http://www.azwater.gov/>

Vegetation restoration project evaluation plan (identify species, density, method guidelines to address need

Avoid/minimize wildlife impacts in collection/storage basins, birds and use fencing, net

**Project Location and/or**  
HDMS records indicate they have been documented within 1 mile of Arizona Department of Agriculture  
1688 W Adams St.  
Phoenix, AZ 85007  
Phone: 602.542.4373

<https://agriculture.az.gov/environmental-services/np1>



quality may be required

; may be required

re a completed site-  
ion), a revegetation plan  
adaptive management

ances in facility water  
lopes to discourage wading

and Antiquities Act have



HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at <http://www.fws.gov/southwest/es/arizona/> or:

**Phoenix Main Office**

2321 W. Royal Palm Rd, Suite 103  
Phoenix, AZ 85021  
Phone: 602-242-0210  
Fax: 602-242-2513

**Tucson Sub-Office**

201 N. Bonita Suite 141  
Tucson, AZ 85745  
Phone: 520-670-6144  
Fax: 520-670-6155

**Flagstaff Sub-Office**

SW Forest Science Complex  
2500 S. Pine Knoll Dr.  
Flagstaff, AZ 86001  
Phone: 928-556-2157  
Fax: 928-556-2121

HDMS records indicate the  
Please review the Chirica  
at:

<https://www.azgfd.com/Pc>

HDMS records indicate the  
Please review the Lesser  
at: <https://www.azgfd.com>



nity of your project area.

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